THE SMALL PROJECTS TEAM INITIATIVE

INTRODUCTION

One of the concerns of construction projects has been the cost associated with design. Ordinarily, there are minimum design costs for all construction projects regardless of their size, complexity, or simplicity. Consequently, the design costs are a higher percentage of the overall costs for less costly projects.

In situations where the design is simple, repetitive, or involves renovation of an existing structure, it would be economical to minimize the design costs. There are several programs being used by various organizations in an attempt to streamline construction processes and reduce costs for small projects. The majority of methods utilized can be grouped into four main categories: 1) paperwork reduction, 2) teamwork or reorganization, 3) simplified design, and 4) innovative procurement strategies.

SPTI MECHANICS

Due to the numerous renovation and maintenance type construction projects managed by the U.S. Army Corps of Engineers (USACE), minimizing the design costs has been a goal for many years. Many USACE organizations have employed various methods to reduce design expense. The Seattle District, in particular, has developed and implemented the Small Projects Team Initiative (SPTI), a method aimed at reducing the negative cost and time impacts of design on smaller construction projects.

What makes the SPTI unique to the other methods is that it combines all four categories of the basic streamlining methods into one formal process. It reduces paperwork by applying only absolutely critical specifications and contracting documents. It reorganizes various disciplines into an integrated team focusing their efforts on selected projects. It provides a close working relationship between the owner, project manager, and contractor (basically using the partnering concept on every job). It expressly uses simplified design techniques to obtain adequate bids from contractors. It almost exclusively uses innovative procurement techniques. It consists of a formal, yet flexible step-by-step process. The following sections describe characteristics of potential projects

for SPTI, the Project Management Plan (PMP), the steps involved in project development, and the team composition and responsibilities.

Potential Project Candidates

There are no hard and fast rules in determining which project should be accomplished with the SPTI. However, there are some criteria that indicate which projects can be most economically delivered through the process. The most important criteria is that there is potential for savings on design costs. Projects that have the following characteristics should be considered for the SPTI:

- Repetitive/routine work
- Simple/uncomplicated construction process
- Renovations/remodelings/upgrades
- Detail of design sufficient with simplified design measures
- Total project costs less than $1 million (≤$500,000 preferred)
- Maintenance projects

Project Management Plan (PMP)

The PMP is a written two to four-page document that outlines the project process. It is as complete as the known information allows. The PMP is mandatory for every USACE project but fits the SPTI exceptionally well because it supplies vital information that may not be found elsewhere in a streamlined process. It provides the customer and USACE team a means to visualize the project in terms of schedule, costs, and concept. It provides a key opportunity for the customer to give feedback on how well the project manager understands the customer's intent and desires. The PMP addresses the following issues:

- Project scope
- Points of contact (POCs) for the customer

- Customer expectations (as perceived by USACE)
- Procurement method
- Scoping strategy
- Small project team assignments
- Preliminary budget
- Schedule (rough timeline)
- Special considerations

SPTI Project Development - Steps

The SPTI process consists of nine steps for developing a small project. These steps are illustrated in Figure 1 and explained below.

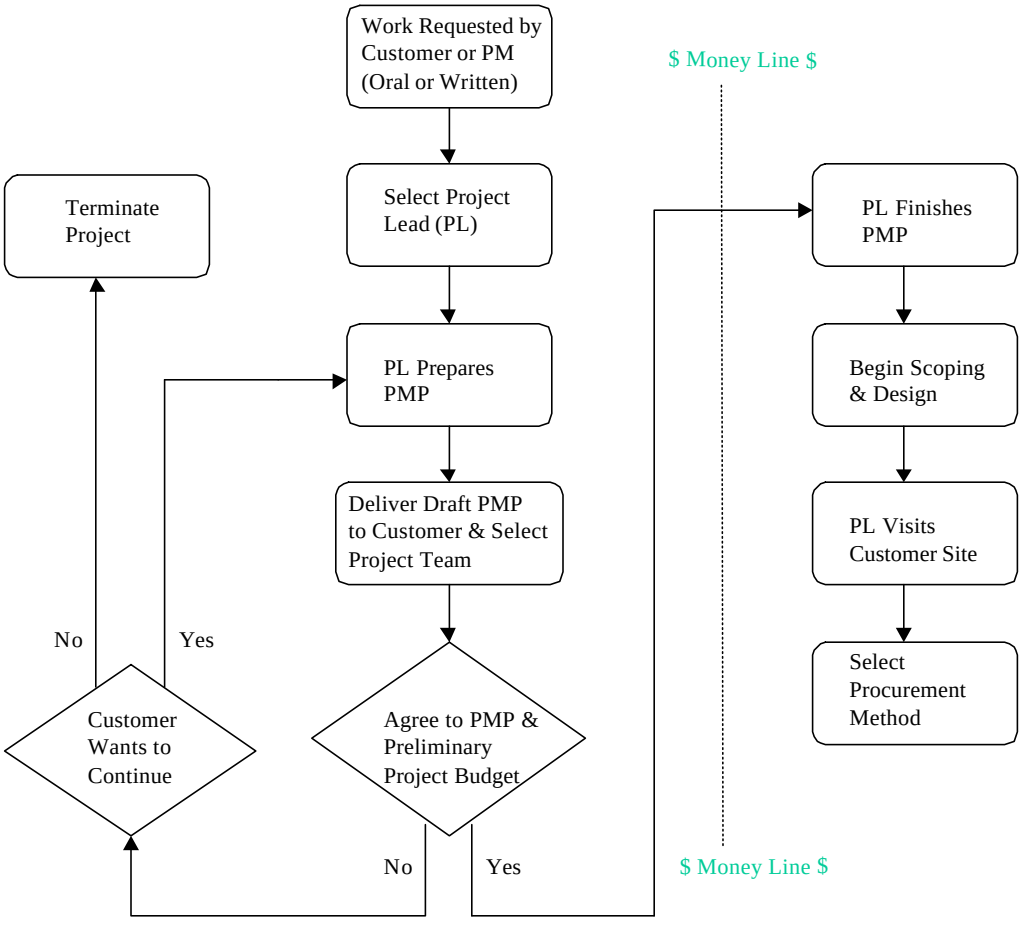

FIG. 1. SPTI Process Steps

- STEP 1 – Request work – A verbal or written request by the customer or Program/Project Manager.
- STEP 2 – Select Project Lead (PL) – The PL performs the duties of a project engineer or project manager. This person will be the driving force for the project, integrating all facets.
- STEP 3 – Prepare project management plan (PMP) – The PL prepares the PMP.
- STEP 4 – Deliver the draft PMP to customer & proposed project team – Distributing the PMP is a draft offer by the Corps to accomplish a project. The customer is able to assess whether or not their expectations for the project are understood and what the potential costs will be. The PMP at this point is an excellent communication tool that facilitates open feedback from both sides. Getting the PMP to the proposed team also sets other actions in motion to prepare for the potential job.
- STEP 5 – Agree to preliminary project budget – If the customer does not agree to the process and the budget outlined in the PMP, the PL evaluates the concerns to determine if there is a suitable solution. At this point, the scope of the project could change or be canceled altogether. If the customer does agree to the process outlined on the PMP, such approval is basically an authorization by the customer to proceed with the project. This does not imply the total project is approved but simply allows the PL to proceed with the scoping and contracting process. From this point, the customer will incur charges for time spent working on the project, but still has the ability to provide input into the project's development and contracting process.
- STEP 6 – Finish PMP – The PL incorporates any comments by the customer and the proposed project team into the PMP.
- STEP 7 – Begin scoping and design – The PL will choose and execute the design method, whether it be photos, sketches, or other means. A written narrative (statement of work (SOW)) on the scope of the work required will also be composed at this time.

- STEP 8 – PL visits customer site – Although this step has most likely occurred prior to this point, it is important that it happens at this time. This step basically marks the point of no return before the actual construction of the project. It provides an opportunity to ensure all parties are "on the same sheet of music".
- STEP 9 – Select procurement method – Based upon the requirements and known quantities of the project, the PL can select the most effective procurement method.

SPTI Team

The workforce of the SPTI is a team of representatives from functions within USACE such as Contracting, Construction, Engineering, and Project Management. This team produces specifications for a construction project with simplified design and/or performance specifications, and utilizes innovative contracting arrangements. The Small Projects Team for the Seattle District of USACE has the following members:

- Small Projects Advocate Manager – This is the person overall responsible for the processes, staffing, and administration of all projects accomplished with SPTI.
- Program Manager – This is the Corps' local representative who handles a specific customer's needs consistently. This person operates on either a regional basis or a customer base concept. This is the person the customer office will be most familiar with and who functions essentially as a customer of SPTI.
- Project Lead (PL) - This is the person responsible for integrating all facets of the project. This is the government's representative to ensure the project specifications are adequate and that can help alleviate any discrepancies, either in design or the construction process.
- Program Analyst – This individual is responsible for the financing arrangements for the project. This person initiates labor and project funding accounts based upon the PMP.

- Contracting Specialist – This person assembles, advertises, and awards the contracts.
- Government Estimator – This person prepares the government fair cost estimate.
- Construction Representative/Quality Assurance Personnel – This individual monitors all phases on the construction process. This person will be the on-site representative to assist in answering questions and concerns the contractor or owner may have about the project. This person will also ensure the project is constructed to specified standards. This includes verifying test results for materials and ensuring proper construction techniques and procedures are used.

EFFECTIVENESS RESULTS

In order to capture the benefits of SPTI, an analysis was done comparing the results of 146 completed Pre-SPTI and 77 SPTI jobs. Factors that were analyzed included project costs, design cost (percentage of the total cost), project duration increase (schedule growth), construction placement rate, and change order rate (COR). Additionally, a questionnaire was developed and sent out to six contractors and eight customers who have actually had experience with the SPTI.

The following measures indicate the effectiveness of the SPTI program discovered by the study.

- Design costs are lower for SPTI projects at a savings of $1,685 per $100,000 of project costs.
- Schedule growth is less for SPTI projects when considering the median impact on all jobs.
- Change order costs are lower for SPTI projects at an apparent median savings of $2,864 per $100,000 of projects costs.
- A sensitivity analysis revealed no impact on the comparison when the smallest (under $3,000) and the largest (over $500,000) projects were excluded.
- Renovation projects appear to reap the greatest benefit while new construction projects are experiencing high change order rates, but interestingly without more schedule growth.

- The majority opinion of contractors and customers is that they are very satisfied with the program, citing improved efficiency, rapport, and flexibility.

SUMMARY

The USACE Seattle Districts Small Projects Team Initiative was developed for the purpose of streamlining the process of project delivery for small projects, preferably those costing no more then $500,000. The SPTI team consists of representatives from contracting, Construction, Engineering, and Project Management and the process makes use of all four popular methods for streamlining the construction process: paperwork reduction, teamwork and reorganization, simplified design, and innovative procurement. The SPTI process consists of a nine-step program, which has proven extremely effective in reducing administrative costs and project durations, while increasing rapport and flexibility.